Brown GIS 07GIS01

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CONTRACT

March 25, 2002
Valid for 90 days from above

Prepared for:

Brown County
Board of Commissioners

Brown County paid
WTH Engineering:
2005 $15,000
2006 $15,000
2007 $15,000

Mari Miller, Auditor

WTH ENGINEERING

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Proposal for
GIS Products and Services
for Brown County, Indiana
March, 2002

WTH Engineering (the "Company") wishes to provide the Brown County Board of Commissioners (the "Client") with new software and map development services to enhance the County's existing Geographical Information System (GIS). The following defines the scope of products and services to be offered by the Company and the compensation to be paid by the Client.

1. Summary: The following is a summary of this proposal. Each item is described in more detail in the sections below.

a) The Company will modify the existing information contained in the counties electronic map (Citymap) into the County's new GIS. This will include relocating all addresses, roads, and all other specified layers on the County's existing map so that they line up with digital ortho photography.
b) The Company will include the latest bridge inventory and create the parcels from the Client's sources.
c) The Company will upgrade 40 of the client's existing Citymap software licenses to the latest version, called Thinkmap, which is capable of displaying the background digital ortho-photography.
d) The cost of these products and services will be $128,400 plus a $1,250 a month customer service fee.

2. Map Development: All of the following information will be included in the finished GIS. The Client will need to supply all of the agreed upon layers to be fit to the aerial photography. The Client will also need to supply a copy of the latest bridge inventory book. Please see the Conversion Matrix "Attachment B" for more detail on the layer conversion.

a) Aerial Photography: 1997-98 digital ortho photos from USGS are available. These photos have a 1-meter per pixel resolution and have been orthogonally rectified to remove relief displacement so that ground features are displayed in their true ground position. See "Attachment A" for a contract for higher resolution photogrammetry. If the Client signs the high-res aerial contract, then the new imagery will be included as a layer and the other GIS data will be aligned to these photos.
b) Roads: The Company will re-position each road, highway and railroads to fit on the new digital ortho photo. All of the data currently in the GIS will be kept in the conversion of the data from Citymap to Thinkmap.
c) Hydrology: All waterways currently in the map will be re-positioned to fit the digital photos.
d) Boundaries: Any town boundaries, emergency response boundaries, utility boundaries and other similar information in the GIS will be redrawn onto the county's new GIS base map.
e) Landmarks: Any place names, points of interest, and other similar information in the GIS will be redrawn onto the county's new GIS base map.
f) Addresses: The Company will re-plot each address point onto the new digital ortho photo. The new location of each address will be based on the location of buildings visible in the photo. There will be cases when it is not obvious which address goes to which building on the photography. In these cases, the Company will place the address point on the closest or most obvious structure.
g) Zoning: The Company will re-plot the zoning boundaries that are currently in the County's GIS system.
h) Parcels: The Company will digitize the client's existing plat maps, which include any blowup pages and subdivision maps, and tile them all together into one continuous map. The Company will align (rubber sheet) each digitized plat into its relative location on the finished map using visual control points on the aerial photography. These visual points include fence lines, tree lines,

road intersections or any visible marker. The Company will not be reading any of the individual lot deeds to get the actual placement. The finished map will show all township and range lines, section lines, platted subdivisions boundaries, subdivision lot lines, lot numbers and parcel lines. The Company will modify the Client's existing parcel numbering system to assure compliance to the State of Indiana's parcel naming system. (i.e. 11-00-00-000-000.000-000). No other parcel data will be included, unless requested by the client.

i) Bridge Inventory: The location of each county bridge will be pinpointed on the map based on the latest inspection submitted to the state. Each bridge will be linked to a data sheet where detailed specifications and notes can be recorded. The Company will populate the database with information provided directly from INDOT. The Company will obtain the latest digital database from the INDOT. Any additional information such as photographs and sketches of each bridge will also be included in the database if provided by the Client.

j) Soil Classifications: The Company will digitize the Client's existing soil maps and align each digitized plat into its visual location on the finished map using visual control points on the aerial photography. The Company will acquire the soil maps from the USDA's local office called the National Resource Conservation Service. Each polygon area will be identified with a soil type so that the assessment software will have enough information to automatically do an agricultural land assessment.

k) Land Use: The Company will provide software to allow the user to add land use designations at the time the parcel is divided and or assessed. The software will provide instructions on how to create the land use designations. Land can be designated as either tillable, non-tillable, woodland or water. Other land use designations can be used as requested by the county assessor. Each polygon area will be identified with a soil type so that the assessment software will have enough information to automatically do an agricultural land assessment.

3. Description of Software: The Software to be provided with this contract is called "Think Map." The Client will need to have Microsoft Access 2000 already installed on any computers where the bridge inventory will be viewed.

a) The following is a summary of the functionality included in the software:
- The software provides various zooming and panning tools to make it possible to easily view any area of the map at any scale.
- Locate any named objects or location on the map by selecting them from an alphabetical index or by pressing the Map button from any data sheet.
- Users can query the database for a set of records matching any criteria based on any combination of field values and then show the results on the map.
- Point and click on any object on the map to view the data linked to that object (i.e. bridge, road, address, etc)
- Measure any distance or area.
- Layers can be turned on and off independently to customize the appearance of the map at each workstation.
- Import or Export data from and to other mapping applications.
- E911 interface to provide automatic pop-up map with each E911 call.
- Editing tools are included to assist in adding or changing any information.
- GPS interface.

b) Hardware Requirements: The software can be installed and ran on any computer provided by the client that meets the following minimum requirements:
- Windows 95, 98, NT, or 2000.
- Microsoft Access 2000 is required for the bridge inventory. Older versions of this software are not compatible with Thinkmap.
- 128 Megabytes of memory (256 recommended).
- 4 Gigabytes of hard disk space (More if higher resolution photography is used).

- 15" SVGA color monitor capable of displaying 16 bit color at 800 X 600 resolution or better. (21" recommended)
- Keyboard and mouse
- Modem and/or Internet Access. (Required for data synchronization, backup, and support)

4. Installation and Coaching:

a) Use of Software: The software will be licensed for use on 40 of the County's existing computers throughout the County. A list of these users must be provided to the Company prior to installation. The software may be installed on a network of computers but use of the software is limited to those users agreed upon prior to installation. All Think Map users must be registered.

b) Setup and Training: When the project is completed, the Company will install the software and data files onto 10 computers and setup each workstation with a strategy of sharing data with the other departments. The Client will then be responsible to load the data onto the remaining computers. Registration of the software is necessary and can be done by contacting the Company after the software is loaded. A users license will then be given to each registered user. Note that no computer hardware is included with the purchase of this system. Company will provide training for the first year based on a "coaching" concept. Coaches are made available to the users (via the phone or in person) on demand for any purpose utilizing the Think Map software.

c) 911 Interface: The Company will interface the mapping software with the Client's E911 system so that a map will automatically be displayed with each 911 call showing the location of the caller. To do this, the Client's 911 provider must make available a local connection point that provides an ALI stream of data with each 911 call. The Client's 911 provider may have additional charges for their part of this interface.

5. Customer Service

a) Toll Free Telephone Support: As part of this customer service agreement, business hours phone support will be provided for one representative from each department. Phone support will include answering questions regarding the use of the software and making changes to the system configuration to adapt to the Client's changing needs.

b) Software Upgrades: Any enhancements made to the Think Map system during the term of the customer support agreement will be automatically uploaded (via the synchronization process) to the Client's computer(s) as they become available.

c) Data Synchronization: This service will make it possible for departments not connected to a central network (i.e. remote users) to share data with other departments and receive Think Map program updates on a regular basis. Remote users who have Internet access on their computer will be able to automatically connect to WTH Engineering's server and send or receive map updates. With this in place, any user responsible for maintaining one or more layers can upload their changes to a remote server and all other users will be able to download these layers so that they are up-to-date each morning. This option does not require the Client to have a network, simply an Internet connection. In addition to the sharing of data within the County, WTH's Data Synchronization program will allow for Multi-County Synchronization for the purpose of enhancing public safety across political boundaries. Counties can sign Inter-Local Cooperation Agreements that allow WTH to share road and address information with the surrounding counties via the nightly synchronization process.

d) Pre-Contract Technical Council: The Company will assist the Client in any pre-contract technical decision that needs to be made regarding digital data interfacing with the Think Map GIS system. The Company's wide range of experience will aid the Client in making efficient decisions for the Client and the Think Map product.

e) Off Site Data Back-up: The Company will maintain a "back-up" of the Client's Map Data off-site of the county. In case of computer data loss, this data back-up will be provided to the county at no charge. The data will be as current as of the last time the Client synchronized their data with the Company.

f) Coaching: Company will provide training for the first year based on a "coaching" concept. Coaches are made available to the users (via the phone or in person) on demand for any purpose utilizing the Think Map software.

g) Additional users: This contract provides software for use on 40 computers. The Company will provide licenses to the Client for additional users for a cost of $750 per computer. This price is guaranteed for the 12 months following the signing of this contract.

6. **Price and Payment:** The above products and services will be provided for a price of $128,400. The monthly maintenance is $1,250 per month to be payable quarterly, semi-annually or annually. This covers all services described in section 5 above. The Company commits to locking in this monthly rate for a period of 12 months from the date of acceptance.

Phase	Delivery Date from Contract Signing	Amount	Invoice Date from Contract Signing	Description
Phase 1	30 days*	$41,630	30 days	Software plus the following layers aligned to USGS DOQQs: Roads Hydrology Boundaries Landmarks Addresses Zoning Bridge Inventory Installation and Training 911 Interface
Phase 2	60 days*	$25,680	60 days	Parcels (part 1 not placed on map) Soils (part 1 not placed on map)
Phase 3	90 days*	$25,680	90 days	Parcels (part 2 not placed on map) Soils (part 2 not placed on map)
Phase 4	120 days*	$25,680	120 days	Parcels (part 3 not placed on map) Soils (part 3 not placed on map)
Phase 5	August 31, 2002	$10,000	August 31, 2002	Final Delivery of Parcels fitted to the new high resolution digital ortho photos
Customer Support	N/A	$15,000	30 days after delivery of last phase*	1 year of Customer Support (may be paid quarterly, semi-annually, or annually)
Total GIS Cost		$143,400		

* Number of days after the signing of this contract and the delivery of all source materials by the Client.

*If the delivery schedule is not adhered to, then Customer Support fees will be modified to reflect services received.

SIGNATURE PAGE

IN WITNESS WHEREOF, the parties have executed this Agreement as of this 1 day of April, 2002.

Company:
WTH Engineering, Inc.

Signature: Rex L. Jones

Name: Rex Jones

Title: President

Date: 3/25/2002

Client:
Brown County

Signature: Amy S. Couch

Name: ~~Pres. Board of Commissioners~~ Amy S. Couch, AC

Title: Pres. Board of Commissioners

Date: April 1 2002

Signature: James L. Gresh

Name: JAMES L. GREEN

Title: COMMISSIONER

Date: April 1, 2002

Signature: Kathi S. Smith

Name: KATHI S. SMITH

Title: BROWN CO. AUDITOR

Date: 4-1-02

Signature: Guy Platter

Name: Guy Platter

Title: Commissioner

Date: Apr. 1 1, 2002

WTH ENGINEERING
www.wthengineering.com
567 Westfield Blvd, West Dr.
Indianapolis, IN 46208
Phone (317) 259-0105
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Attachment A
Agreement For Digital Ortho-Photography
March 2002

WTH Engineering, Inc (the "Company") and 3Di Technologies ("3Di") wish to provide Brown County (the "Client") with Digital Ortho-Photography. The following defines the scope of products and services to be offered by the Company and 3Di and the compensation to be paid by the Client.

1. **Summary:** The following is a summary of this contract. Each item is described in more detail below.
   a) 3Di will provide to the Client digital ortho-photography with 1foot pixel resolution and ± 10 feet horizontal accuracy which represents a 1"= 400' scale.
   b) WTH Engineering will do the coordination and management of the photogrammetry.
   c) The total cost of these products and services will be $57,000 payable directly to WTH Engineering.

2. **Scope of Services:** This section describes the scope of services that 3Di will perform. WTH Engineering will coordinate and manage the orthophoto process.

AERIAL PHOTOGRAPHY

For the topographic mapping, 3Di will obtain black and white digital aerial photography of the project areas using a fully equipped aerial survey aircraft.

The aircraft will be equipped with a precision aerial camera fitted with a 6" focal length lens cone.

For 1"=400' scale orthophotos, the photography will be flown at 15,000' AMT providing a contact negative scale of 1" = 2500'.

The photography will be flown with a 60% forward overlap and will not contain any excessive tip, tilt crab or cloud cover.

One set of 9" x 9" contact prints will be supplied to Brown County.

3Di can provide, upon request, their flight diagram that shows the proposed flight lines, as well as the desired ground control locations.

Upon receipt of final payment for the project, the aerial film will become the property of Brown County.

GROUND CONTROL

3Di will be responsible for obtaining the horizontal and vertical ground control points required for this project.

ANALYTICAL TRIANGULATION

3Di proposes to utilize analytical triangulation to provide the supplemental control points necessary to set the stereo models in the photogrammetric instruments. This procedure will be completed using our Wild AC1 or Kern DSR14 instruments, Wild PUG IV point transfer devices, and JFK Rabats/Brats software.

MAPPING

The photogrammetric compilation will be completed at a scale of 1"=400' with a horizontal accuracy of 10'. The photogrammetric compilation will be accomplished using 3Di's analytical plotting instruments. The mapping will be simultaneously stored in digital form by direct data capture during the compilation process.

3Di will produce digital orthophotos by orthorectifying the high resolution scanned B & W photography with a Digtial Terrain Model. The orthophotos will be delivered as 8-bit TIF files with accompanying TIF World Files. WTH Engineering will convert the TIF files into BMP files for use in Think Map.

The mapping will be produced to National Map Accuracy Standards as published by the U.S.G.S.

DELIVERABLES

- One set of 9" x 9" black & white contact prints.
- 8-bit digital orthophotos in BMP format on a CD-ROM.

DELIVERY SCHEDULE

Delivery of orthophotos will coincide with WTH Engineering's Final Delivery of the GIS map layers and should be delivered no later than August 31, 2002.

3. **Price and Payment:** The above products and services will be provided for a total price of $57,000.

   a) $57,000 payment to be paid by Brown County to WTH Engineering, Inc. net 30 days from delivery date of the final data set.

Attachment B

Conversion Matrix

Layer Group	Items included in group	Details
Roads		
	State Highways	Create new centerline based on new aerial photography.
	Major Roads	Create new centerline based on new aerial photography.
	Local Roads	Create new centerline based on new aerial photography.
	Other Roads	Create new centerline based on new aerial photography.
	Privage Roads	Create new centerline based on new aerial photography.
	Pre 1937 Roads and Trails	Create new centerline based on new aerial photography.
	Railroads	Create new centerline based on new aerial photography.
	Paved Roads	Duplicate all paved roads based on this layer.
	Primary Overlay	Recreate layer.
	Secondary Overlay	Recreate layer.
	Master Road List	Contains all roads and names for County.
	Road Entities	Miscellaneous data.
	Next County Road Names	Create new centerline based on new aerial photography.
Hydrology		
	Water (Rivers, creeks streams etc.)	
Boundaries		
	Sections	Name each section to be unique.
	Commissioner District	Reposition the boundary to fit new photo.
	Phone Company	Reposition the boundary to fit new photo.
	Electric Boundary	Reposition the boundary to fit new photo.
	Boundary	Reposition the boundary to fit new photo.
	Emergency Response	Reposition the boundary to fit new photo.
	X-Co Gas & Electric Lines	Reposition the boundary to fit new photo.
	GPS Grid	Will import data only.
Landmarks		

IN WITNESS WHEREOF, the parties have executed this Agreement as of this 1 day of April, 2002.

Company:
WTH Technology, Inc.

Signature: Rex E. Jones

Name: Rex Jones

Title: President

Date: 3/25/2002

Client:
Brown County

Signature: Amy S. Couch

Name: Amy S. Couch

Title: Pres. County Commissioner

Date: April 1, 2002

Signature: James L. Grady

Name: JAMES L. GRADY

Title: COMMISSIONER

Date: April 1, 2002

Signature: Kathi S. Smith

Name: KATHI S. SMITH

Title: BROWN CO. AUDITOR

Date: 4-1-02

Signature: Coy Platter

Name: Coy Platter

Title: Commissioner

Date: April 1, 2002

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Conversion Matrix

Layer Group	Items included in group	Details
	CSDC Hydrant	Move to fit new aerial photo.
	Hydrant Location	Move to fit new aerial photo.
	Cemetary/Church	Move to fit new aerial photo.
	Landmark	Move to fit new aerial photo.
	Elementary School	Move to fit new aerial photo.
	Old School Location	Move to fit new aerial photo.
	Deputy's Residence	Move to fit new aerial photo.
	Tourist Home	Move to fit new aerial photo.
	Brown Co. Dams	Move to fit new aerial photo.
Addresses		
	Addresses	Moved to fit new aerial photo
Zoning		
	GB Zone	Move to fit new aerial photo and parcel data.
	Zone 1	Move to fit new aerial photo and parcel data.
	Zone AB	Move to fit new aerial photo and parcel data.
	Zone R1	Move to fit new aerial photo and parcel data.
	Zone LR	Move to fit new aerial photo and parcel data.
Parcels		
	New layer	Will take existing parcel maps and vectorize them so that they can be "fit" to the aerial photo.
Bridge Inventory		
	New Layer	Plot bridges on map and link the latest bridge inventory to the data.